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Distr.
LIMITED

ID/WG.445/7
26 September 1985

ENGLISH

United Nations Industrial Development Organization

International Conference on Man-Made Fibres

Beijing, China, 18 - 22 November 1985

A REVIEW OF THE DEVELOPMENT OF MAN-MADE FIBRE PRODUCTION IN IRAN*

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V.85-31402

Abstract:

In the present article the development of Synthetic Fibre Production in Iran has been reviewed. The appearance and transfer of this technology, production of synthetic fibre, also table and statistics whenever necessary are included.

The consumption of artificial fibres in Iran

Staple viscose rayon was the first artificial fibre used in Iran in 1964. Other synthetic fibres, nylon, polyester and then acrylic came to market and used one after another.

In the last decade there was always a swift increase in the imports of artificial fibres, from which 2/3 are viscose rayon.

At present there are three synthetic fibre manufacturer in Iran, Aliaf, Polyacryl and Parsilon which are discussed below:

The Aliaf Company of Iran

The Aliaf company is the first producer of synthetic fibres in Iran, established in 1966. This company produces nylon 6 from Caprolactam. Aliaf was a shared investment of 900 million Rials (130 million U.S.D in 1966), which 50% of the total investment belonged to American Allied Chemicals and 50% from private sectors.

The production was started in 1969 with the capacity of 4500 tons/year, nylon 6 in the first phase.

Allied company sold his share to Bayer (German Company) in 1970.

Aliaf company was expanded in 1973 and the production (table 1,2) reached to 10000 T/Y.

Although Aliaf was an American shared investment from the beginning but 90% of the machinery are Zimmer made.

At present the whole production of this company are consumed in Iran, and the necessary raw materials are mostly imported from Europe.

The total personel of the company are 1300 which work in three shifts.

Table one

The type of production of Aliaf company

		No. of yarn denier	No. of filaments
1	mat (UD)	20	1
2	Bright (B)	40	10
3	(B), cross. sec. Y shape	40	10
4	Black (BLK)	20	10
5	mat (UD)	70	20
6	mat (UD)	70	17
7	(B), cross. sec. Y shape	70	20
8	mat (UD)	100	24

Table Two

Production of Aliaf Company from 1970-1983

Year	10^3 Tons
1970	3
1971	4.5
1972	4.7
1973	5.9
1974	6.0
1975	6.3
1976	8.7
1977	8.5
1978	6.4
1979	7.0
1980	9.2
1981	9.7
1982	8.7
1983	6.5

The Polyacril Company of Iran

The Polyacril company was established in 1974 and the plant is located in a distance of 40 Km. south of Isfahan.

This is a shared company of American du-Pont, private and state sectors of Iran. The total investment so far are around 1000 000 000 U.S. Dollars.

The plant is one of the most modern ones, dependent to the American du-Pont. It produces both, polyester and acrilic fibres.

The present capacity of production is 53000 Tons/Year, as follows

Polyester	Filament	14000
Polyester	Staple	20000
Acrylic	Tops	19000
Total		53000

It has been designed to be expanded up to 80000 T/Y, in future.

The first production was polyester filament, came to the market in 1978 and polyester staple was produced in 1980.

The raw materials are imported mostly from Europe.

The total number of personel are 2600 which work in three shifts.

Table Three

The Possible Production of Polyacryl Co.

	Polymerisation Capacity Ton	Spinning Capacity Ton	Production		
			1981	1982	1983
PE filament	18000	14000	6602	6911	12800
PE staple	37200	20000	7990	7933	11500
AC staple	25400	19000	7670	5297	11000
AC tops	-----	-----	6607	6754	11800
Total	80600	53000	28869	26895	47100

The raw materials for polymerisation are imported and processed in the plant to produce polyester and acrylic fibres.

To produce acrylic tops, the required acrylic tow are imported and converted to tops. The production of tops are 12000 Tons/year.

Table Four

The Specification of the Production of Polyacryl Co.

A. Polyester, Filaments

Type	202 --	78	d. tex ,	34	Filaments
Type	202 --	110	d. tex ,	34	Filaments
Type	202 --	167	d. tex ,	34	Filaments
Type	312 --	135	d. tex ,	34	Filaments
Type	312 --	180	d. tex ,	34	Filaments
Type	312 --	280	d. tex ,	34	Filaments

B. Polyester, Staple

Type	532 --	1.6	d. tex ,	38mm.	/ Semi-mat.
Type	642 --	2.2	d. tex ,	38mm.	/ Semi-mat.
Type	642 --	3.3	d. tex ,	60mm.	/ Semi-mat.

C. Acrylic, Tops

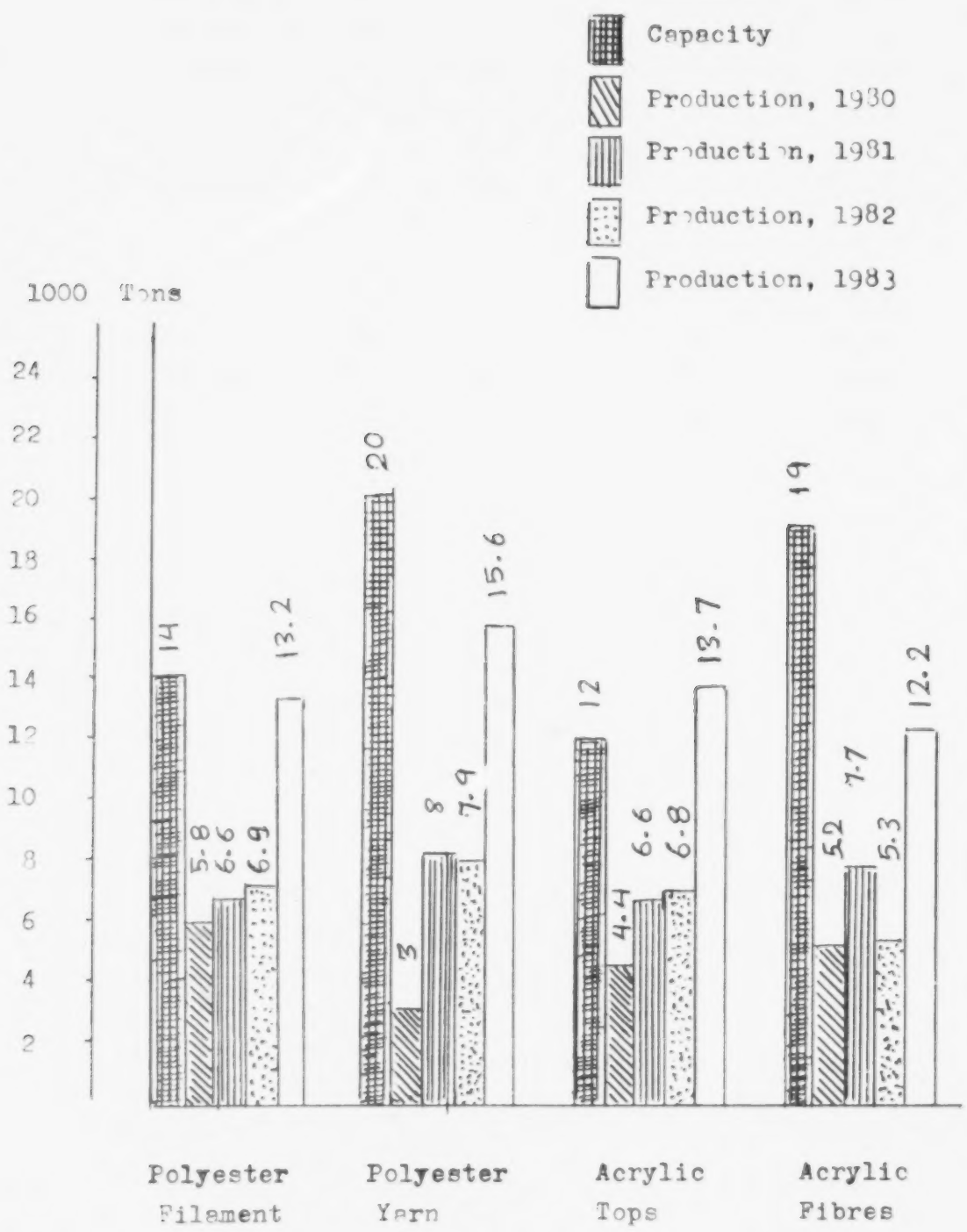
Type	162 --	3.3	d. tex ,	Semi-mat.	-- highbulk
Type	161 --	3.3	d. tex ,	Bright	-- highbulk
Type	161 --	5.0	d. tex ,	Bright	-- highbulk
Type	161 --	6.7	d. tex ,	Bright	-- highbulk
Type	141 --	3.3	d. tex ,	Bright	-- regular
Type	141 --	5.0	d. tex ,	Bright	-- regular

D. Acrylic, Staple

Type	102 --	3.3	d. tex ,	38mm. ,	Semi-mat.
Type	101 --	3.3	d. tex ,	60mm. ,	Bright
Type	101 --	5.0	d. tex ,	60mm. ,	Bright
Type	101 --	5.7	d. tex ,	60mm. ,	Bright
Type	101 --	5.3	d. tex ,	75mm. ,	Bright
Type	101 --	5.0	d. tex ,	75mm. ,	Bright
Type	101 --	6.7	d. tex ,	75mm. ,	Bright

Table Five

The Capacity and Production of Different Type of Fibres During 19



The Parsilon Company

The parsilon Co. was established in 1974 and the plant is located in Khoramabad in west center of Iran .

This was at the beginning a private investment of 245,000,000 Rials (35 000 000 U.S. Dollars). The plant has been made by Zimmer from Germany and all the machineries are from Zimmer.

The capacity of this firm is 8000 T/Y. nylon 6 yarn, in 20, 30, 40, 70 and 100 denier types in the first phase. Thereis programme to expand the plant and the capacity will reach to 16000 T/Y.

This firm has a texturizing section which has started the production from 1982.

The capacity of texturizing section is 1500 T/Y. and has 6 texturizing machines, having 1296 spindles. The machines are French made (SOTEXA).

The total number of the personels are 900,working in three shifts.

The Production of Texturized Yarn in Iran

SANCOR was the first texturizing unit, established in 1955. Now there are 8 texturizing units operating which produce nylon and polyester texturized yarn, table illustrates the statistics of these units.

Table six

The Texturizing Units

Name	Place	Biginning	No. of Spindles	Type of production	Production 1983 T/Y.
SANCOR	TEHRAN	1955	648	Nylon	8
MADAR	TEHRAN	1964	5184	Nylon	2740
STRETCH	ESFEHAN	1967	1080	PE/NY	726
PORSA	GHAZVIN	1973	9432	PE/NY	5406
IRAN KNITTING	GHAZVIN	1973	4320	PE	5132
FORTEX	GHOM	1974	4840	PE	1960
SHADILON	MASHHAD	1976	768	PE	1750
PARSILON	KHORAM-ABAD	1974	1296	NY	345
			27568 total		18067 total